43RD SEMI-ANNUAL

DR. JANET LIOU-MARK

HONORS SCHOLARS & UNDERGRADUATE RESEARCH CONFERENCE

WEDNESDAY, DECEMBER 3, 2025

Poster Presentation (Poster Judging)
Academic Complex Lobby & Foyer • 10AM - 4PM

Honors Scholars Presentations, Day 1
Academic Complex A-209 • 11AM - 2PM

THURSDAY, DECEMBER 4, 2025

Honors Scholars Presentations, Day 2
Interdisciplinary Design Game-Based Learning Lab Showcase
Academic Complex A-105 • 9AM - NOON

Conference Award Ceremony
Amphitheater LG-30 • 12:45PM - 2:15PM

In remembrance of

PROF. JANET LIOU-MARK

HONORS SCHOLARS PROGRAM 06

Honors in a Regular Course

Volunteers

NASA Exoplanet Watch

Intro to Biotech Lab Series for Honors Scholars, DNA Learning Center

Interdisciplinary Design Game-Based Learning Lab

UNDERGRADUATE RESEARCH PROGRAM 15

CUNY Research Scholars Program

Emerging Scholars Program

GRANT-FUNDED PROJECTS 30

NSF REU Grant # 2447604

Greetings

Milton Santiago
Interim President

Pamela Brown
Provost &
Vice President for Academic Affairs

Reginald A. Blake
Associate Provost and
Dean of Curriculum and Research

Recognition of Conference Participants

Honors Scholars
Reneta D. Lansiquot-Panagiotakis
Director of the Honors Scholars Program
Co-Advisor of the National Society of Collegiate Scholars
Co-Director of the Interdisciplinary Design
Game-Based Learning Lab

Undergraduate Research
Hamidreza Norouzi
Director of Undergraduate Research

Susan Davide
Co-Director of Undergraduate Research

Grant-Funded Projects
Juila Rivera

Conference Awards
Tamrah D. Cunningham
Assistant Director of the Honors Scholars Program
Co-Advisor of the National Society of Collegiate Scholars
Co-Director of the Interdisciplinary Design
Game-Based Learning Lab

HONORS SCHOLARS PROGRAM

HONORS IN A REGULAR COURSE

HONORS PROJECT POSTERS

3D Printed Portable Automatic Pill Dispenser

Amber M. Ocasio
Prof. Martin Rhode
CET 2461: Computer Systems: Software Interface

From Sensors to Smart Decisions: Exploring the Role of AI, ML, and IoT Integration in Modern Agriculture

Majida Naz
Prof. Vaneet Singh
CET 4805: Digital System Design using HDL

Layers of the City: Preservation and Transformation in New York's Architectural History

Maja Shaqiri
Prof. Christopher Stienon
ARCH 3522: A History of New York City Architecture

Photogrammetry and AOX Supported Implant Restorations

Amanda Acevedo
Prof. Andrew Pica
RESD 2311: Complete Dentures III

Steven Ravens: Learning how to pitch a children's book

Sable Spellman
Prof. Sara Woolley
COMD 3633: Advanced Strategies in Illustration

Understanding recurrent neural networks

Christopher Chow
Prof. Johann Thiel
MAT 3770: Mathematical Modeling I – Optimization

HONORS PROJECT PANELS

A Comprehensive Study of Nutrition in School Lunch Programs

Nardia Anglin Taylor
Prof. Michael Krondl
HMGT 4990: Sustainable Food Systems

Diet and Prevention of Coronary Heart Disease

Feriyal Khan
Prof. Ralph Alcendor
BIO 2312: Human Anatomy and Physiology II

From Voice to Vision: Professional Writing for Sakura Dreams, a Cultural Wellness Company

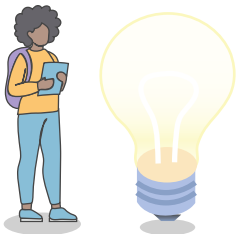
Sabahat Moughal
Prof. Sara-Ann Bermont
COM 3401: Business and Professional Communication

Knowledge Vault

Adham Alshaif
Prof. Jean Boulet
CST 3613: Application Development with Database

Soil Regeneration Lab

Cindi Sosa
Prof. Eugene Park
ARCH 2312: Architectural Design III



VOLUNTEERS

American Red Cross

Harmony Divine, Joshua Edmond, Roberlin Espinal-Torres, Emerson Say Garcia, Aissata Gbane, Chasity Guerrero, Sirandou Keita-Traore, Naveed Khan, Hadiza Lamin, Claudishor Lewis, Milagros Martinez, Alimary Mejia, Dyana Monroy, Sabahat Moughal, Iqra Nadir, Majida Naz, Hayli Nieves, Rabina Rasul, Daedranee Smith

Halal Food Connections

Abdellah Gessra

MusCare

Wasiruzzaman Ahmed

New York Academy of Science

Parbatti Boodhoo

Raising Health

April Htun

NASA EXOPLANET WATCH

Artur Abramyan, Tomas Gonzalez, Victoria Edmond, Keleesha Lowe, Ryan Meykler, Rean Shahidullah, Rona Zhang,

INTRO TO BIOTECH LAB SERIES FOR HONORS SCHOLARS, DNA LEARNING CENTER

Wasiruzzaman Ahmed, Sajid Bhuiyan, Siham Benabou, Shiou Ching Chen, Feriyal Khan, Erik Lazo, Feriyal Khan, Hadiza Lamin, Erik Lazo, Alexander Legaspi, Luis Luna, Saamiya Nowrose, Alexandra Pipta, Sandra Roper, Ariana Sampson, Denis Sokoletskiy, Parviz Subkhankulov, Maya Walker, WenXiong Zhang

INTERDISCIPLINARY DESIGN GAME-BASED LEARNING LAB

Roberlin Espinal-Torres, Simon Lin, Samuel Mensah, Evelyn Pulla, Drucillia Ralph

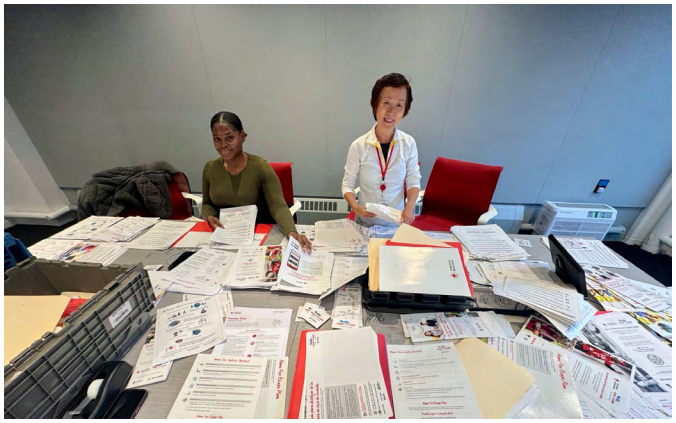
3D to 2D Rush: Compete, Convert, Conquer

Roberlin Espinal-Torres
Prof. Tamrah D. Cunningham and
Dr. Reneta D. Lansiquot-Panagiotakis

Game Jam: Going gold
November 13, 2025

AMERICAN RED CROSS
VOLUNTEERS

Volunteer learning to install a smoke detector



Volunteer in the office

Pedro the Penguin

Disaster Preparedness, American Red Cross
September 11, 2025

Quick Tip, Big Impacts: Mastering the M.Eng. Application Essays, Cornell University
September 18, 2025

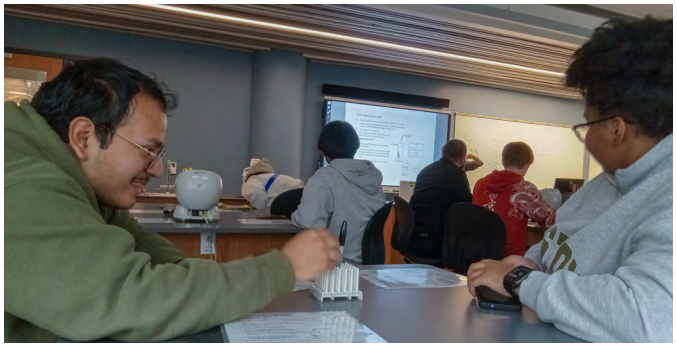
Hands Only CPR, American Red Cross
October 30, 2025

INTRO TO BIOTECH LAB SERIES FOR HONORS SCHOLARS,

DNA LEARNING CENTER

DNA Fingerprinting
September 25, 2025

Glowing Genes
October 16, 2025



Protein Purification
November 13, 2025

UNDERGRADUATE RESEARCH PROGRAM

CUNY RESEARCH SCHOLARS PROGRAM

Using Assistive Technology to Improve Health and Fitness of People with Disabilities

Zelea Hall
Prof. Farrukh Zia

Fabricating the Future: PEGDA Hydrogels for Smart Drug Delivery in Tissue Engineering

Elva Zhang
Prof. Ozlem Yasar

Modeling Mineral Redistribution in Biological Tissue Using Apple as an In Vitro Analogue [Team 1]

Ali Algemsh, Daler Djuraev, Halima Alazeb, Taro Suzuki, Zeenia Ahmed [CRSP]
Prof. Subhendra Sarkar

Development of Filters to Lower Energy of Soft X-Rays and its Applications [Team 2]

Hanna Baghdadi, Jennifer Balbuena, Jaskaran Singh, Maximillian Stemplewicz
Prof. Subhendra Sarkar

Guiding X-ray and MRI Noise for Pattern Generation [Team 3]

Al Emran [CRSP], Feldy Liriano, Hailah Nagi, Natalya Tomskikh
Prof. Subhendra Sarkar

Standards And Reporting Of Biodiversity And Emission In Turf To Wildlife Conversion

Naomi Vasquez
Prof. Heather Eliezer

Validating an Artificial Intelligence Model for Achalasia Detection in Chest Radiography

Joel Perez, Shauyen Ng-Mei
Prof. Ozlem Yasar

Frameworks for Data Visualization

Kazi Tamim Nomany
Prof. Patrick Slattery

Evaluating the Potential Impacts of Quantum Computing

Andy Lopez
Prof. Patrick Slattery

Humanoid Robot

William Morales
Prof. Xiaohai Li

First mammography screening participation and breast cancer incidence and mortality in the subsequent 25 years: population based cohort study

Anna Aleksyeyeva, Ashley Hassang, Forruk Ahmed, Oman Balan
Prof. Zoya Vinokur

Effect of personality characteristics on gaze patterns for a repulsive stimulus

Jazmine Martin
Prof. Daniel Capruso

Controlled Drug Delivery Using PEGDA-Based Hydrogels

Keven Sanchez
Prof. Ozlem Yasar

Physics of light trapped in composite surfaces

Francky Duperval, Zeenia Ahmed
Prof. Subhendra Sarkar

Bio-Aware Blended Spaces: Stage 1 Sprint

Francky Duperva
Prof. David Smith

Applications of the Quantum Zeno Effect

Aaron Soriano
Prof. Seth Cottrell

Using X-Ray and MRI to Study Communication of Living Cells of Plants and Animals

Natalya Tomskikh
Prof. Subhendra Sarkar

Plant Responses to Radiation: The Central Role of Reactive Oxygen Species

Lianghao Mai, Andrew Feng, Shaibu Alhassan
Prof. Eric Lobel

Career AI

Briston Faulknor [CRSP], Connor Kavleski, Ousmane Diallo, Devonte Allen, Fnu Anchita, Mohammad Sohail, Taimoor Awan, Twaambo Kabosha
Prof. Ahmet Yuksel, Prof. Cyrus Meherji

EMERGING SCHOLARS PROGRAM

Exploring CNN and GNN models for PTM prediction: Phosphorylation Prediction Using Convolutional Neural Networks for Post Translational Modifications

Christopher Chow, Shiu Wong
Prof. Shang-Huan Chiu

Design and Analysis of High Pass Filters

Ahmad Rafi
Prof. Freddy Villalona

The Ethical Use of NoSQL Databases in AI-Driven Applications: Balancing Innovation and Data Privacy.

Talisha Rahman
Prof. Elizabeth Milonas

Touching Emotions: Assistive Communication with 3D Emojis

Aisha Ayub
Prof. Farrukh Zia

Modeling Mineral Redistribution in Biological Tissue Using Apple as an In Vitro Analogue [Team 1]

Ali Algemsh, Daler Djuraev, Halima Alazeb, Taro Suzuki, Zeenia Ahmed
Prof. Subhendra Sarkar

Development of Filters to Lower Energy of Soft X-Rays and its Applications [Team 2]

Hanna Baghdadi, Jennifer Balbuena, Jaskaran Singh, Maximillian Stemplewicz
Prof. Subhendra Sarkar

Guiding X-ray and MRI Noise for Pattern Generation [Team 3]

Al Emran [CRSP], Feldy Liriano, Hailah Nagi, Natalya Tomskikh
Prof. Subhendra Sarkar

Cell survival and longevity factors, stress resistant mechanisms and cell signaling molecules

Nadia Contento
Prof. Ralph Alcendor

Working on the DNA extraction and amplification of Wolbachia infected insects to determine strain type via MLST amplicon sequencing and creating a bioinformatic pipeline to process these data.

Iqra Nadir
Prof. Jeremy Seto

Gesture Controlled Robot Car

DiaaEldin Elabsy
Prof. Farrukh Zia

OpenLab UX/UI Design & Outreach

Heni Abid, Kaijah Rodriguez, Nathaly Guaman, Nour Mohsen
Prof. Jenna Spevack

Advancement of Wearable Hardware & Possible Cross-Sector Applications

Yassine Chahid
Prof. Patrick Slattery

Physics of Light Trapped in Composite Surface

Feldy Liriano, Zeenia Ahmed [CRSP]
Prof. Subhendra Sarkar

Advanced Assistive Technology Facilitates Hands-on Service Learning

Suchi Chowdury
Prof. Farrukh Zia

Reinventing Haitian Vernacular with Bio-Based Design

Nick Antoine
Prof. Ralph Alcendor

Computer Aided Design of 3D Printed Assistive Technology Devices

Amna Saifi, Ugochukwu Emenawu,
Prof. Alexander Aptekar

Assessing local plant health with NDVI

Stanley He
Prof. Jeremy Seto

Mechanical Engineering and Innovation and technology

Kristian Rice, Kevin Balbuena - Montes
Prof. Ahmed Hassebo

Mapping of Metadata Schematics

Joseph Alonge
Prof. David Smith

Collaborative AI in Healthcare

Milsy Pena
Prof. David Smith

Metaphysics of Emergen

Shabik Sherchan
Prof. David Smith

OnycoScan

Jade Acevedo, Savara Khan, Lakpa Sherpa, Zain Abidin
Prof. Samuel Greenberg

Breaking the Chain: How Pesticides Disrupt Ecosystems and Human Health

Khalid Farhad
Prof. Suela Aalsberg

Re-purposed Whole Textile Reinforced Soils to Enhance Bearing Capacity of Pavement Soils

Eddie Hornedo, Edria Garganian, Roland Guerva, Jonathan Huerta
Prof. Ivan Guzman

Monitoring Heat in Brooklyn Subway System

Alexander Abreu-Ramirez
Prof. Abdou Bah, Dr. Hamidreza Norouzi, AP. Reginald Blake

The anti-cancer goodness of grapes

Sydni Kolokoltsev
Prof. Vishwas Joshi

Exploring the Civic Threshold: Integrating Architecture and Landscape in Public Spaces

Daniela Guzman
Prof. Anne Chen

Career AI

Briston Faulknor [CRSP], Connor Kavleski, Ousmane Diallo, Devonte Allen, Fnu Anchita, Mohammad Sohail, Taimoor Awan, Twaambo Kabosha
Prof. Ahmet Yuksel, Prof. Cyrus Meherji

The Architecture of Water: From Forest to Village to City

Kevin Hernandez
Prof. Kenneth Conzelmann

Arduino assisted pixy-camera based object detection and tracking

Mohammed Imad
Prof. Ahmed Hassebo

Game Development Mechanics

Ryan Mayleas
Prof. David Smith

Trauma, Dental Anxiety, and PTSD: The Role of the Dental Hygienist in Providing Trauma-Informed Care

Anna Chan, Laura Then, Manal Eusha
Prof. Khrystyna Vyprynyuk

A Grounded Theory Based Approach to Characterize Software Attack Surfaces

Kazi Tasin
Prof. Sara Moshtarizohrehnama

Mitochondrial genome analysis of Eastern Blue Scoliid wasp

Guadalupe Gonzalez
Prof. Jeremy Seto

Data Analytics for Sustainable Economic Development and Circular Economy

ZiHan Cao
Prof. Sean MacDonald

Bio Based Masonry Units

Anjum Ahmmed, Brailyn Ventura, Christopher Gabriel-Lopez, Jeremyah Herrera, Mariam Selim, Marti Tapia
Prof. Alexander Aptekar

Place: Dwelling within the Built and Natural Environments

Christine Gratia
Prof. Laureen Park

From Tradition to Innovation: The 2025 Shift in Lead Apron Use for Dental Radiography

Daisy Sosa
Prof. Khrystyna Vyprynyuk

Fabrication and photoluminescence of two-dimensional transition-metal dichalcogenide materials

Khaoula Dehhou
Prof. Vitaliy Dorogan

What are the ethical concerns of relying on computer systems for financial decisions

Fehaj Pabal
Prof. Elizabeth Milonas

inLAWN 2025: Collaborative Futures for Ukraine's Urban-Nature Landscapes

Michael Ray Malonjao
Prof. Lia Dikigoropoulou

Photoluminescence Experiments

Alex Davis
Prof. Vitaliy Dorogan

Calculus Explorations of Symmetry

Marc Verma-Bonany
Prof. Satyanand Singh

Applying Algorithm Principles to the Human Brain: A Comparative Study with AI and Practical Application

Amani Alkobadi, Saba Alkobadi
Prof. Mohammad Islam

Ozone Recovery in the Urban Boundary Layer: Insights from DIAL Measurements Over NYC

Julissa Mendez
Prof. Viviana Vladutescu

Time Capsule

Isabella Ramos, Sally (Siqi) Chen
Prof. Jenna Spevack

Monitoring Heat in the NYC subway system

Abdoul Nana
Prof. Abdou Bah

X-Ray Research and Biomedical Imaging

Halima Alazeb
Prof. Subhendra Sarkar

Stars and Simulations: Classifying Filaments of the Cosmic Web

Rona Zhang
Prof. Charlotte Welker

ARCscholars

Bobbi Barker, Bryant Ariza, Elijah Walker
Prof. Naomi Langer-Voss

Legal and Communication Challenges of Immigrant Physicians: Navigating the U.S. Healthcare System on J1 and H1B visas

Sabahat Moughal
Prof. Sarah Price

Research Project: In-Data Science About Machine Learning Models Predicting Stock Market Data

Parviz Subkhankulov
Prof. Caner Koca

Improving Stock Price Predictions Using Lag Features and Hyperparameter Optimization

Anooja Singh
Prof. Caner Koca

Neurotoxicity of Chemotherapy: A Data Analysis of Central Nervous System Effects

Feruza Akhtamova
Prof. Mohammad Islam

Computer Aided Design of 3D Printed Assistive Technology Devices

Amna Saifi, Ugochukwu Emenawu
Prof. Farrukh Zia

Camera And Gripper Based Electric Vehicle

Rachica Jean Baptiste
Prof. Ahmed Hassebo

Redesigning the light testing center of the robotic system

Angel Garcia
Prof. Muhammad Ali Ummy

Mitochondrial genome analysis of Eastern Yellowjacket

Imarcy Marmol
Prof. Jeremy Seto

Competing Underground: How Public and Private Health Campaigns Shape Messages in NYC Subways

Nour Alkhadi
Prof. Ralph Alcendor

Microgravity Simulation for Lunar In-Situ Build

Harold Rojas
Prof. Zayed Saleh

Fear and Fascination: Investigating the Popularity of Horror Games Across Cultures

India Barker
Prof. David Smith

Endoparasite screening for Wolbachia

Shayna Jung
Prof. Jeremy Seto

Through The Eyes Of Time

Shaneece Prince
Prof. Steven Indelicato

Geopolymer based nanoscale formulations using recyclable materials for CO2 adsorption Scalable Additive manufacturing for for Lunar construction and Co2 Adsorption

Gabriela Bernales, Angelo Demetroulako
Prof. Samsur Rahman

Technology in Human Trafficking

Kaytleen Phipps
Prof. Smita Ekka D

Illuminating the Connection Between Galaxy Morphology and Evolution with the Legacy Survey Of Space and Time

Samiya Shamsur
Prof. Charlotte Olsen

Ethics and Non-Rational Data

Angie Navarro
Prof. Elizabeth Milonas

"Enculturation" in Social Work Practice: A Scoping Review of Research and Practice Approaches

Perla Reyes
Prof. Smita Ekka D

Characterizing Cystathionine Beta-Synthase in Tetrahymena thermophila

Darien Mendez
Prof. Ralph Alcendor

Frameworks for Data Visualization Methods

Kazi Rahimu Islam, Kazi Tamim Nomany
Prof. Patrick Slattery

Mitigation of the Impact of Climate Change in Building Energy Consumption

Takoda Nestor
Prof. Daeho Kang

Optical Prediction of Personality Characteristic

Tamara Tugulashvili
Prof. Daniel Capruso

Planning a Health Impact Assement Framework for Major Events in New York City

Fehaj Pabal
Prof. Samaneh Gholitabar

Quantum Music Generation Methodology

Elizabeth Frias
Prof. David Smith

AI-Driven Sustainable Textile Waste Utilization in New York State: Part 1

Kyshia Anderson
Prof. Alyssa Adomaitis

Control of Electro-Mechanical Systems with Assistive Technology Devices

Shiou Ching Chen
Prof. Farrukh Ziav

Can autoimmune diseases affect the Oral Cavity?

Shahd Abdalla
Prof. Dora-Ann Oddo

GRANT-FUNDED PROJECTS

NSF REU GRANT #2447604

Drs. Reginald Blake, Hamidreza Norouzi, & Ms. Julia Rivera

Monitoring Heat in Brooklyn Subway System

Addree Barua, Alexader Abreu Ramirez [ESP], Babacar Sarr, Zohaib Khan
Profs. Abdou Bah, Prof. Hamid Norouzi, AP. Reginald Blake

Monitoring Heat in Bronx Subway System

Abdoul R. Nana [ESP]
Profs. Abdou Bah, Hamid Norouzi, AP. Reginald Blake

Monitoring Heat in Manhattan Subway System

Kevin Balbuena and Kingston Ditsch
Profs. Abdou Bah, Hamid Norouzi, AP. Reginald Blake

Monitoring Heat in Queens Subway System

Kiran Maharjan and Rean Shahidullah
Profs. Abdou Bah, Hamid Norouzi, AP. Reginald Blake

43RD SEMI-ANNUAL

DR. JANET LIOU-MARK

HONORS SCHOLARS & UNDERGRADUATE RESEARCH CONFERENCE

To all the dedicated professors for mentoring students. A heartfelt thank you for making this event a successful one

SPECIAL THANKS TO

Dr. Kelsie Anson
Mr. Luis Luna
Ms. Chioma Okoye
Mr. Michael Peterkin
Ms. Olga Privman
Ms. Julia Rivera
Ms. Angelina Santiago
Ms. Monisha Sooklall

A SPECIAL THANK YOU TO THE DEDICATED POSTER JUDGES:

Ralph Alcendor
Lillian Amann
Giselle de Araujo Lima e Souza
Marzi Azarderakhsh
Jules Balla
Sue Brandt
Clairesa Clay
Scott Dahlie
Danny DeBonis
Hyunjoo (Anna) Do
Delia Williams Gunpot
Ahmed Hassebo
Joelle Jean
Ellen Kim
Lyubava Kroll
Despina Lalaki
Kate Lee
J. Longo
Michael Loo
Lili Ma
Elizabeth Milonas
Laureen Park
Sarah Price
Nandi Prince
Keanu Renne-Glover
Noemi Rodriguez
Jody R. Rosen
Zeyu Shen
Satyanand Singh
Meagan A. Sylvester
Jessica Vignapiano
Robert Walljasper
Zheng Zhu

A special recognition and appreciation to Wilna Michel for designing this program.

ORGANIZED BY CITY TECH'S HONORS SCHOLARS & UNDERGRADUATE RESEARCH PROGRAMS